

# Stanford

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## Boris Heifets

Assistant Professor of Anesthesiology, Perioperative and Pain Medicine (Adult MSD) and, by courtesy, of Psychiatry and Behavioral Sciences

### CLINICAL OFFICES

- **Anesthesia**

300 Pasteur Dr Rm H3580

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### Bio

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### BIO

Dr. Boris Heifets, MD, PhD, is a board certified anesthesiologist who specializes in providing anesthesia for neurological surgery. He has practiced at Stanford since 2010.

After completing residency training at Stanford, Dr. Heifets completed fellowship training in neuroanesthesiology, also at Stanford. In addition to treating patients, Dr. Heifets also directs both clinical research and basic neuroscience. His research group studies how new rapid acting psychiatric therapies, like ketamine, MDMA and psilocybin, produce lasting changes in nervous system function, behavior, and therapeutic outcomes.

### CLINICAL FOCUS

- Neuroanesthesia
- Anesthesia

### ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Anesthesiology, Perioperative and Pain Medicine
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

### HONORS AND AWARDS

- William L. Young Neuroscience Research Award, Society for Neuroscience in Anesthesiology and Critical Care (2019)
- K08 Mentored Clinical Scientist Research Career Development Award, National Institute of Mental Health (2017-2021)
- Mentored Research Training Grant - Basic Science, Foundation for Anesthesia Education and Research (2013-2015)
- Outstanding Contributions to Anesthesia Research, Department of Anesthesiology, Pain & Perioperative Medicine (2013)
- Internal Grant Program Award, Department of Anesthesiology, Pain & Perioperative Medicine (2012)

## PROFESSIONAL EDUCATION

- Fellowship: Stanford University Anesthesiology Fellowships (2016) CA
- Fellowship, Stanford Hospital & Clinics , Research (2014)
- Board Certification: Anesthesia, American Board of Anesthesiology (2014)
- Residency: Stanford University Anesthesiology Residency (2013) CA
- Internship: Memorial Sloan Kettering Cancer Center Transitional Year Training (2010) NY
- Medical Education: Albert Einstein College of Medicine (2009) NY
- PhD, Albert Einstein College of Medicine , Neuroscience (2009)
- BS, Yale University , Psychobiology/Neuroscience (1999)

## LINKS

- Heifets lab website: <https://heifetslab.stanford.edu/>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Harnessing synaptic plasticity to treat neuropsychiatric disease

### CLINICAL TRIALS

- Intraoperative Ketamine Versus Saline in Depressed Patients Undergoing Anesthesia for Non-cardiac Surgery, Not Recruiting

## Teaching

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### COURSES

#### 2023-24

- Current Controversies and Emerging Technologies in Applied Neuroscience: ANES 215, NBIO 215, NEPR 215 (Win)
- Introduction to Psychedelic Medicine: PSYC 215B (Win)

#### 2022-23

- Current Controversies and Emerging Technologies in Applied Neuroscience: ANES 215 (Win)
- Introduction to Psychedelic Medicine: PSYC 215B (Win)

#### 2021-22

- Introduction to Psychedelic Medicine: PSYC 215B (Win)
- Journal Club for Neuroscience, Behavior and Cognition Scholarly Concentration: ANES 215 (Win)

### STANFORD ADVISEES

#### Med Scholar Project Advisor

Austin Valido

#### Postdoctoral Faculty Sponsor

Lindsay Cameron, Austen Casey, Tim Chapman, Nicholas Denomme, Tuuli Hietamies, Benjamin Rein, Pilleriin Sikka

#### Doctoral Dissertation Reader (NonAC)

Sedona Ewbank, Francis Masuda, Brenda Yu

#### Postdoctoral Research Mentor

Nicholas Denomme, Tuuli Hietamies

## GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Anesthesia (Fellowship Program)
- Psychiatry and Behavioral Science (Fellowship Program)

## Publications

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### PUBLICATIONS

- **Ketamine's acute effects on negative brain states are mediated through distinct altered states of consciousness in humans.** *Nature communications*  
Hack, L. M., Zhang, X., Heifets, B. D., Suppes, T., van Roessel, P. J., Yesavage, J. A., Gray, N. J., Hilton, R., Bertrand, C., Rodriguez, C. I., Deisseroth, K., Knutson, B., Williams, et al  
2023; 14 (1): 6631
- **An orexigenic subnetwork within the human hippocampus.** *Nature*  
Barbosa, D. A., Gattas, S., Salgado, J. S., Kuijper, F. M., Wang, A. R., Huang, Y., Kakusa, B., Leuze, C., Luczak, A., Rapp, P., Malenka, R. C., Hermes, D., Miller, et al  
2023
- **An orexigenic subnetwork within the human hippocampus** *NATURE*  
Barbosa, D. N., Gattas, S., Salgado, J. S., Kuijper, F., Wang, A. R., Huang, Y., Kakusa, B., Leuze, C., Luczak, A., Rapp, P., Malenka, R. C., Hermes, D., Miller, et al  
2023
- **Therapeutic mechanisms of psychedelics and entactogens.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Heifets, B. D., Olson, D. E.  
2023
- **UNRAVELING the synergistic effects of psilocybin and environment on brain-wide immediate early gene expression in mice.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Rijsketic, D. R., Casey, A. B., Barbosa, D. A., Zhang, X., Hietamies, T. M., Ramirez-Ovalle, G., Pomrenze, M. B., Halpern, C. H., Williams, L. M., Malenka, R. C., Heifets, B. D.  
2023
- **The effects of ketamine on symptoms of depression and anxiety in real-world care settings: A retrospective controlled analysis.** *Journal of affective disorders*  
Hietamies, T. M., McInnes, L. A., Klise, A. J., Worley, M. J., Qian, J. J., Williams, L. M., Heifets, B. D., Levine, S. P.  
2023
- **Trial of Ketamine Masked by Surgical Anesthesia in Depressed Patients.** *medRxiv : the preprint server for health sciences*  
Lii, T. R., Smith, A. E., Flohr, J. R., Okada, R. L., Nyongesa, C. A., Cianfichi, L. J., Hack, L. M., Schatzberg, A. F., Heifets, B. D.  
2023
- **Brain-Wide Activity Mapping Reveals a Required Role for the Dorsal Endopiriform Nucleus in MDMA-Evoked Prosocial Behavior**  
Heifets, B., Rijsketic, D., Salgado, J., Wall, N., Ramirez-Ovalle, G., Llorach, P., Lopez, R., Casey, A., Hietamies, T., Rastegar, Z., Barbosa, D., Beier, K., Malenka, et al  
ELSEVIER SCIENCE INC.2023: S57-S58
- **Ketamine's Acute Effects on Negative Brain States are Mediated Through Distinct Altered States in Humans**  
Zhang, X., Hack, L., Heifets, B., Suppes, T., Van Roessel, P., Yesavage, J., Gray, N., Hilton, R., Rodriguez, C., Deisseroth, K., Knutson, B., Williams, L.  
ELSEVIER SCIENCE INC.2023: S312
- **Acute Effects of MDMA on Negative Affective Brain Circuit Function: A Randomized Controlled Mechanistic Trial**  
Hack, L., Zhang, X., Heifets, B., Suppes, T., van Roessel, P., Yesavage, J., Gray, N., Hilton, R., Rodriguez, C., Deisseroth, K., Knutson, B., Williams, L.  
ELSEVIER SCIENCE INC.2023: S88
- **Acute Effects of MDMA on Intrinsic Functional Connectomes Associated With Altered States of Consciousness and Defensiveness**  
Zhang, X., Hack, L., Heifets, B., Suppes, T., van Roessel, P., Yesavage, J., Gray, N., Hilton, R., Rodriguez, C., Deisseroth, K., Knutson, B., Williams, L.

ELSEVIER SCIENCE INC.2023: S87-S88

- **UNRAVELing the synergistic effects of psilocybin and environment on brain-wide immediate early gene expression in mice.** *bioRxiv : the preprint server for biology*  
Rijsketic, D. R., Casey, A. B., Barbosa, D. A., Zhang, X., Hietamies, T. M., Ramirez-Ovalle, G., Pomrenze, M., Halpern, C. H., Williams, L. M., Malenka, R. C., Heifets, B. D.  
2023
- **A Protocol for Reducing Intensive Care Utilization After Craniotomy: A 3-Year Assessment.** *Neurosurgery*  
Ruiz Colón, G. D., Ohkuma, R., Pendharkar, A. V., Heifets, B. D., Li, G., Lu, A., Gephart, M. H., Ratliff, J. K.  
2023
- **Cervical sympathectomy to treat cerebral vasospasm: a scoping review.** *Regional anesthesia and pain medicine*  
Bombardieri, A. M., Heifets, B. D., Treggiari, M., Albers, G. W., Steinberg, G. K., Heit, J. J.  
2022
- **Intraoperative Anesthetic Probes of Brain Health: Ketamine as a Canary in the Coal Mine?** *Anesthesia and analgesia*  
Reese, M., Heifets, B. D., Berger, M.  
2022; 135 (4): 679-682
- **Modulation of 5-HT release by dynorphin mediates social deficits during opioid withdrawal.** *Neuron*  
Pomrenze, M. B., Cardozo Pinto, D. F., Neumann, P. A., Llorach, P., Tucciarone, J. M., Morishita, W., Eshel, N., Heifets, B. D., Malenka, R. C.  
2022
- **Anesthetic-Induced Intraoperative Dream Associated With Remission of a Psychiatric Disorder: A Case Report.** *A&A practice*  
Chow, H. S., Hack, L. M., Kawai, M., Heifets, B. D.  
2022; 16 (8): e01613
- **Deconstructing Ketamine-Induced Changes in Cortisol and Dissociative and Affective States in a Controlled Mechanistic Study**  
Hack, L. M., Zhang, X., Brawer, J., Gray, N., Heifets, B., Suppes, T., van Roessel, P., Rodriguez, C., Knutson, B., Williams, L.  
ELSEVIER SCIENCE INC.2022: S178-S179
- **An immune signature of postoperative cognitive dysfunction (POCD)**  
Verdonk, F., Tsai, A. S., Hedou, J., Heifets, B. D., Gaudilliere, D., Bellan, G., Sharshar, T., Gaillard, R., Molliex, S., Feyaerts, D., Stelzer, I., Ganio, E. A., Sato, et al  
LIPPINCOTT WILLIAMS & WILKINS.2022: 577-578
- **Acute Ketamine Modulates Cognitive Control Network Activity During Cognitive Inhibition: Evidence From a Mechanistic Trial**  
Zhang, X., Hack, L., Brawer, J., Gray, N., Heifets, B., Suppes, T., van Roessel, P., Rodriguez, C., Knutson, B., Williams, L.  
ELSEVIER SCIENCE INC.2022: S225
- **Great Expectations: recommendations for improving the methodological rigor of psychedelic clinical trials.** *Psychopharmacology*  
Aday, J. S., Heifets, B. D., Pratscher, S. D., Bradley, E., Rosen, R., Woolley, J. D.  
2022
- **A retrospective analysis of ketamine intravenous therapy for depression in real-world care settings.** *Journal of affective disorders*  
McInnes, L. A., Qian, J. J., Gargeya, R. S., DeBattista, C., Heifets, B. D.  
1800
- **Local accumbens invivo imaging during deep brain stimulation reveals a strategy-dependent amelioration of hedonic feeding.** *Proceedings of the National Academy of Sciences of the United States of America*  
Wu, H., Kakusa, B., Neuner, S., Christoffel, D. J., Heifets, B. D., Malenka, R. C., Halpern, C. H.  
1800; 119 (1)
- **Systemic enhancement of serotonin signaling reverses social deficits in multiple mouse models for ASD.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Walsh, J. J., Llorach, P., Cardozo Pinto, D. F., Wenderski, W., Christoffel, D. J., Salgado, J. S., Heifets, B. D., Crabtree, G. R., Malenka, R. C.  
2021
- **Selective filtering of excitatory inputs to nucleus accumbens by dopamine and serotonin.** *Proceedings of the National Academy of Sciences of the United States of America*

- Christoffel, D. J., Walsh, J. J., Hoerbel, P., Heifets, B. D., Llorach, P., Lopez, R. C., Ramakrishnan, C., Deisseroth, K., Malenka, R. C. 2021; 118 (24)
- **Unraveling the opioid actions of S-ketamine and R-ketamine: comment on Bonaventura et al.** *Molecular psychiatry*  
Heifets, B. D., Bentzley, B. S., Williams, N., Schatzberg, A. F.  
2021
  - **Brain wide mapping of neuronal activity evoked by MDMA, a rapid-acting therapy for post-traumatic stress disorder**  
Ryskamp, D., Llorach, P., Schlozman, S., Rastegar, Z., Salgado, J. S., Hietamies, T., Barbosa, D. A., Pinto, D., Neuman, P., Hell, M., Beier, K., Malenka, R. C., Heifets, et al  
LIPPINCOTT WILLIAMS & WILKINS.2021: 583-584
  - **Brain-wide unbiased mapping of neuronal activity pinpoints ketamine's interaction with the opioid system in mice**  
Ryskamp, D., Hietamies, T., Schlozman, S., Llorach, P., Salgado, J. S., Barbosa, D. A., Heifets, B. D.  
LIPPINCOTT WILLIAMS & WILKINS.2021: 582
  - **Antidepressant Effect of Intraoperative Ketamine in Patients with Major Depression Undergoing Surgery: An Open-Label Pilot Study**  
Lii, T., Okada, R., Pfaff, K., Thordstein, R., Cianfichi, L., Heifets, B. D.  
LIPPINCOTT WILLIAMS & WILKINS.2021: 876
  - **Morphine Tolerance and Reward is Regulated by Aldehyde Dehydrogenase-2 in Mice**  
Zambelli, V., Salgado, J. S., Heifets, B. D., Tawfik, V., Gross, E. R.  
LIPPINCOTT WILLIAMS & WILKINS.2021: 626-627
  - **Input-specific modulation of murine nucleus accumbens differentially regulates hedonic feeding.** *Nature communications*  
Christoffel, D. J., Walsh, J. J., Heifets, B. D., Hoerbel, P., Neuner, S., Sun, G., Ravikumar, V. K., Wu, H., Halpern, C. H., Malenka, R. C.  
2021; 12 (1): 2135
  - **5-HT modulation of a medial septal circuit tunes social memory stability.** *Nature*  
Wu, X., Morishita, W., Beier, K. T., Heifets, B. D., Malenka, R. C.  
2021
  - **Hallucinogens in Mental Health: Preclinical and Clinical Studies on LSD, Psilocybin, MDMA, and Ketamine.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*  
De Gregorio, D., Aguilar-Valles, A., Preller, K. H., Heifets, B. D., Hibicke, M., Mitchell, J., Gobbi, G.  
2020
  - **Piercing the Ketamine Cloud** *ANESTHESIOLOGY*  
Heifets, B. D.  
2020; 133 (5): 970-72
  - **Brain-wide unbiased mapping of neuronal activity pinpoints ketamine's interaction with the opioid system in mice**  
Ryskamp, D., Salgado, J., Barbosa, D. A., Heifets, B. D.  
LIPPINCOTT WILLIAMS & WILKINS.2020: 415
  - **Amygdala-Midbrain Connections Modulate Appetitive and Aversive Learning.** *Neuron*  
Steinberg, E. E., Gore, F. n., Heifets, B. D., Taylor, M. D., Norville, Z. C., Beier, K. T., Földy, C. n., Lerner, T. N., Luo, L. n., Deisseroth, K. n., Malenka, R. C.  
2020
  - **Better living through chemistry: MDMA's prosocial mechanism as a starting point for improved therapeutics.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*  
Heifets, B. D., Malenka, R. C.  
2020
  - **A newly developed anesthetic based on a unique chemical core.** *Proceedings of the National Academy of Sciences of the United States of America*  
Cayla, N. S., Dagne, B. A., Wu, Y., Lu, Y., Rodriguez, L., Davies, D. L., Gross, E. R., Heifets, B. D., Davies, M. F., MacIver, M. B., Bertaccini, E. J.  
2019
  - **Disruptive Psychopharmacology.** *JAMA psychiatry*  
Heifets, B. D., Malenka, R. C.  
2019

- **Rigorous Trial Design Is Essential to Understand the Role of Opioid Receptors in Ketamine's Antidepressant Effect** *JAMA PSYCHIATRY*  
Heifets, B. D., Williams, N. R., Bentzley, B. S., Schatzberg, A. F.  
2019; 76 (6): 657–58
- **Attenuation of Anti-Suicidal Effects of Ketamine by Opioid Receptor Antagonism**  
Williams, N., Heifets, B., Bentzley, B., Blasey, C., Sudheimer, K., Lyons, D., Schatzberg, A.  
ELSEVIER SCIENCE INC.2019: S113
- **Rigorous Trial Design Is Essential to Understand the Role of Opioid Receptors in Ketamine's Antidepressant Effect.** *JAMA psychiatry*  
Heifets, B. D., Williams, N. R., Bentzley, B. S., Schatzberg, A. F.  
2019
- **Rigorous Translational Models Are Key to Studying Ketamine's Antidepressant Mechanism: Response to Wang and Kaplin** *AMERICAN JOURNAL OF PSYCHIATRY*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (5): 412
- **Rigorous Translational Models Are Key to Studying Ketamine's Antidepressant Mechanism: Response to Wang and Kaplin.** *The American journal of psychiatry*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (5): 412
- **Interpreting Ketamine's Opioid Receptor Dependent Effect: Response to Sanacora** *AMERICAN JOURNAL OF PSYCHIATRY*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (3): 249–50
- **Target Population, Dose, and Timing Considerations for Understanding Naltrexone's Subjective Effect: Response to Amiaz.** *The American journal of psychiatry*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (3): 251–52
- **Interpreting Ketamine's Opioid Receptor Dependent Effect: Response to Sanacora.** *The American journal of psychiatry*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (3): 249–50
- **Target Population, Dose, and Timing Considerations for Understanding Naltrexone's Subjective Effect: Response to Amiaz** *AMERICAN JOURNAL OF PSYCHIATRY*  
Heifets, B. D., Williams, N. R., Blasey, C., Sudheimer, K., Rodriguez, C. I., Schatzberg, A. F.  
2019; 176 (3): 251–52
- **Distinct neural mechanisms for the prosocial and rewarding properties of MDMA.** *Science translational medicine*  
Heifets, B. D., Salgado, J. S., Taylor, M. D., Hoerbelt, P. n., Cardozo Pinto, D. F., Steinberg, E. E., Walsh, J. J., Sze, J. Y., Malenka, R. C.  
2019; 11 (522)
- **Attenuation of antidepressant and antisuicidal effects of ketamine by opioid receptor antagonism.** *Molecular psychiatry*  
Williams, N. R., Heifets, B. D., Bentzley, B. S., Blasey, C. n., Sudheimer, K. D., Hawkins, J. n., Lyons, D. M., Schatzberg, A. F.  
2019
- **Attenuation of Antidepressant Effects of Ketamine by Opioid Receptor Antagonism**  
Williams, N. R., Heifets, B. D., Blasey, C., Sudheimer, K., Pannu, J., Pankow, H., Hawkins, J., Birnbaum, J., Lyons, D. M., Rodriguez, C. I., Schatzberg, A. F.  
AMER PSYCHIATRIC PUBLISHING, INC.2018: 1205–15
- **Attenuation of Antidepressant Effects of Ketamine by Opioid Receptor Antagonism.** *The American journal of psychiatry*  
Williams, N. R., Heifets, B. D., Blasey, C., Sudheimer, K., Pannu, J., Pankow, H., Hawkins, J., Birnbaum, J., Lyons, D. M., Rodriguez, C. I., Schatzberg, A. F.  
2018: appiajp201818020138
- **5-HT release in nucleus accumbens rescues social deficits in mouse autism model.** *Nature*  
Walsh, J. J., Christoffel, D. J., Heifets, B. D., Ben-Dor, G. A., Selimbeyoglu, A., Hung, L. W., Deisseroth, K., Malenka, R. C.  
2018

- **Case Report of an Awake Craniotomy in a Patient With Eisenmenger Syndrome.** *A&A practice*  
Heifets, B. D., Crawford, E., Jackson, E., Brodt, J., Jaffe, R. A., Burbridge, M. A.  
2018; 10 (9): 219-222
- **KETAMINE'S ANTIDEPRESSANT EFFECT IS BLOCKED BY A MU-OPIOID RECEPTOR ANTAGONIST IN HUMANS AND MICE**  
Heifets, B. D., Williams, N., Sudheimer, K., Pankow, H., Blasey, C., Lyons, D., Schatzberg, A. F.  
LIPPINCOTT WILLIAMS & WILKINS.2018: 343
- **Fluid management concepts for severe neurological illness: an overview.** *Current opinion in anaesthesiology*  
Heifets, B. D., Tanaka, P. n., Burbridge, M. A.  
2018
- **Native System and Cultured Cell Electrophysiology for Investigating Anesthetic Mechanisms.** *Methods in enzymology*  
Hoerbel, P. n., Heifets, B. D.  
2018; 602: 301–38
- **Rabies screen reveals GPe control of cocaine-triggered plasticity.** *Nature*  
Beier, K. T., Kim, C. K., Hoerbel, P. n., Hung, L. W., Heifets, B. D., DeLoach, K. E., Mosca, T. J., Neuner, S. n., Deisseroth, K. n., Luo, L. n., Malenka, R. C.  
2017
- **Case Report of an Awake Craniotomy in a Patient With Eisenmenger Syndrome.** *A & A case reports*  
Heifets, B. D., Crawford, E. n., Jackson, E. n., Brodt, J. n., Jaffe, R. A., Burbridge, M. A.  
2017
- **BEYOND KETAMINE FOR PSYCHIATRIC DISEASE: UNRAVELING THE MURINE NEURAL MECHANISMS OF THE EMPATHOGEN MDMA, A NOVEL, RAPID-ONSET SINGLE-SHOT CLINICAL THERAPY FOR POST-TRAUMATIC STRESS DISORDER**  
Heifets, B. D., Taylor, M., Hung, L. W., Malenka, R. C.  
LIPPINCOTT WILLIAMS & WILKINS.2016
- **MDMA as a Probe and Treatment for Social Behaviors.** *Cell*  
Heifets, B. D., Malenka, R. C.  
2016; 166 (2): 269–72
- **Chronic pain. Decreased motivation during chronic pain requires long-term depression in the nucleus accumbens.** *Science*  
Schwartz, N., Temkin, P., Jurado, S., Lim, B. K., Heifets, B. D., Polepalli, J. S., Malenka, R. C.  
2014; 345 (6196): 535-542
- **HIPPOCAMPAL GABAERGIC FIELD POTENTIALS: A NOVEL HIGH THROUGHPUT SCREEN FOR GENERAL ANESTHETICS IN RAT**  
Nie, J., Sharma, B., MacIver, B., Heifets, B. D.  
LIPPINCOTT WILLIAMS & WILKINS.2014: S144
- **IMPROVING DEEP BRAIN STIMULATION THROUGH TARGETED SYNAPTIC MODIFICATION**  
Heifets, B. D., Deisseroth, K., Malenka, R., MacIver, B.  
LIPPINCOTT WILLIAMS & WILKINS.2013: 159
- **Acute Cardiovascular Toxicity of Low-Dose Intrathecal Ziconotide.** *Pain medicine (Malden, Mass.)*  
Heifets, B. D., Smith, S. M., Leong, M. S.  
2013
- **Endocannabinoid Signaling and Long-Term Synaptic Plasticity** *ANNUAL REVIEW OF PHYSIOLOGY*  
Heifets, B. D., Castillo, P. E.  
2009; 71: 283-306
- **Interneuron activity controls endocannabinoid-mediated presynaptic plasticity through calcineurin** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Heifets, B. D., Chevaleyre, V., Castillo, P. E.  
2008; 105 (29): 10250-10255
- **Endocannabinoid-mediated long-term plasticity requires cAMP/PKA signaling and RIM1 alpha** *NEURON*  
Chevaleyre, V., Heifets, B. D., Kaeser, P. S., Sudhof, T. C., Purpura, D. P., Castillo, P. E.

2007; 54 (5): 801-812

- **Regulation of regulators of G protein signaling mRNA expression in rat brain by acute and chronic electroconvulsive seizures** *JOURNAL OF NEUROCHEMISTRY*

Gold, S. J., Heifets, B. D., Pudiak, C. M., Potts, B. W., Nestler, E. J.  
2002; 82 (4): 828-838

- **The effect of scopolamine in older rabbits tested in the 750 ms delay eyeblink classical conditioning procedure** *INTEGRATIVE PHYSIOLOGICAL AND BEHAVIORAL SCIENCE*

Woodruff-Pak, D. S., Green, J. T., Pak, J. T., Heifets, B., Pak, M. H.  
2002; 37 (2): 103-113

- **Nefiracetam ameliorates associative learning impairment in the scopolamine-injected older rabbit.** *Medical science monitor*

Pak, J., Green, J., Heifets, B., Pak, M., Woodruff-Pak, D.  
2002; 8 (4): BR105-12

- **Chemical analysis of ecstasy pills** *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*

Baggott, M., Heifets, B., Jones, R. T., Mendelson, J., Sferios, E., Zehnder, J.  
2000; 284 (17): 2190-2190

- **Anticonvulsant efficacy of N-methyl-D-aspartate antagonists against convulsions induced by cocaine** *JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS*

Witkin, J. M., Gasior, M., Heifets, B., Tortella, F. C.  
1999; 289 (2): 703-711